20020206 506h20t

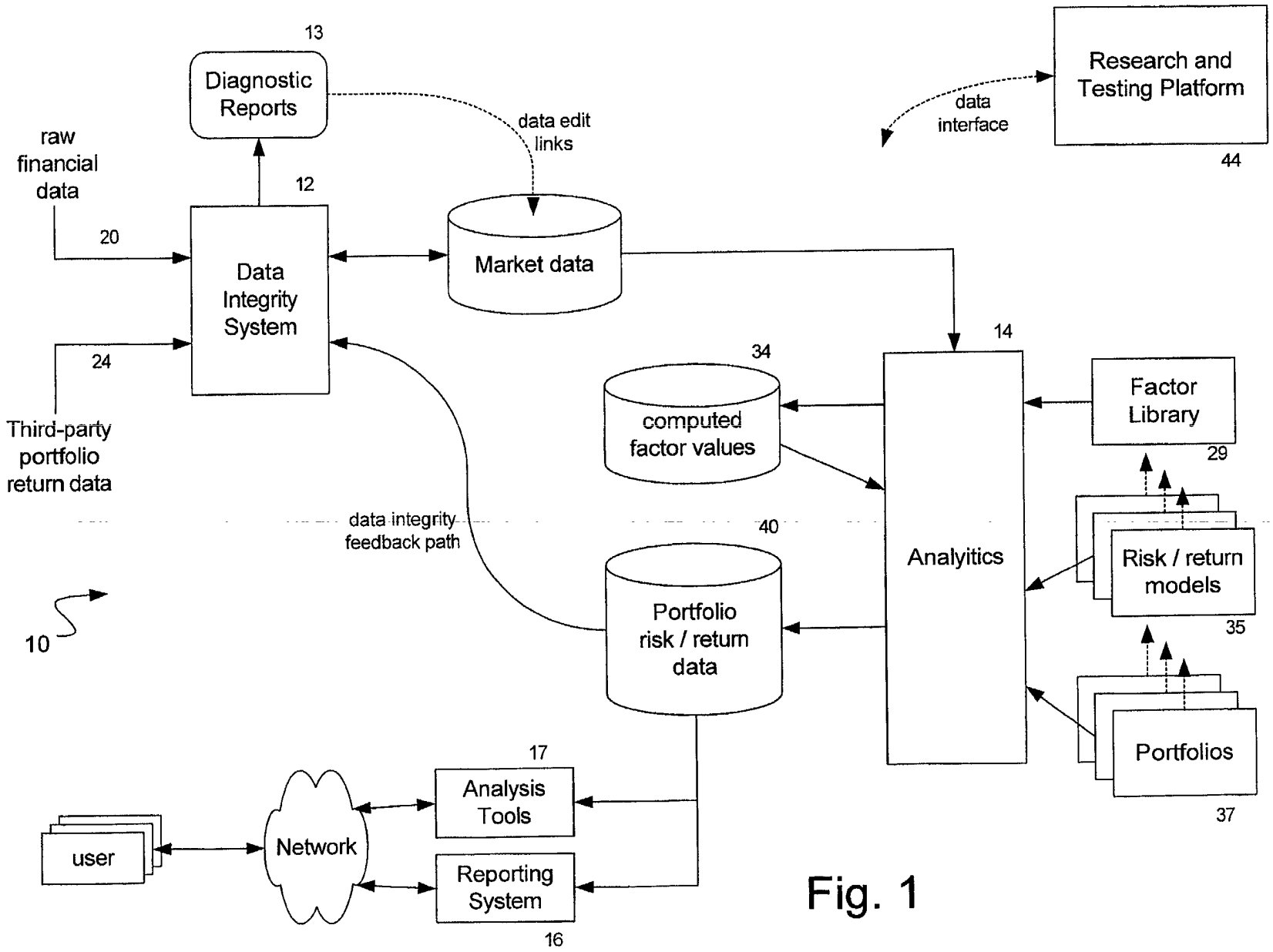

Fig. 1

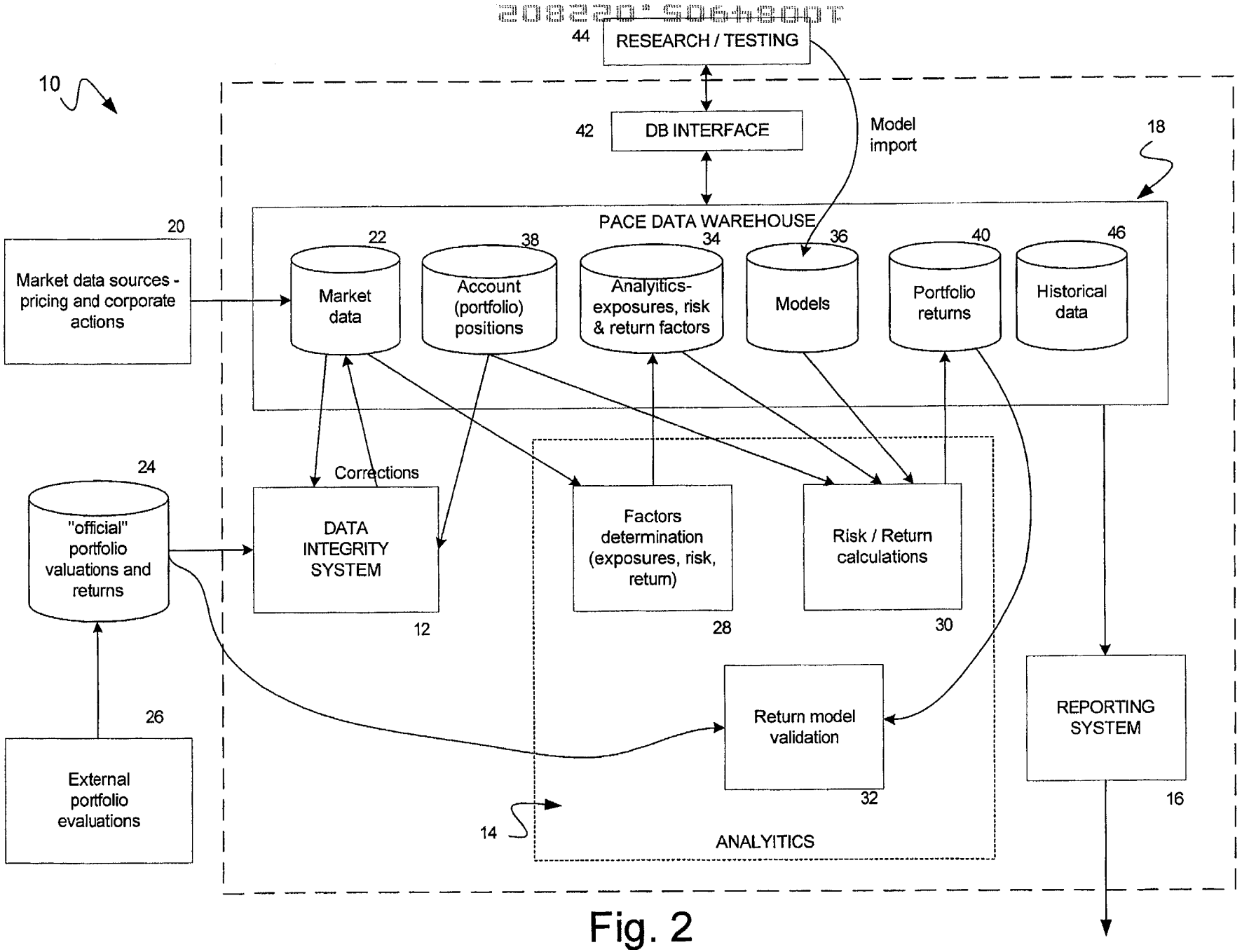
10
44
RESEARCH / TESTING
42
DB INTERFACE
Model import
18
PACE DATA WAREHOUSE
20
Market data sources - pricing and corporate actions
22
Market data
38
Account (portfolio) positions
34
Analyitics- exposures, risk & return factors
36
Models
40
Portfolio returns
46
Historical data
24
"official" portfolio valuations and returns
Corrections
DATA INTEGRITY SYSTEM
12
Factors determination (exposures, risk, return)
28
Risk / Return calculations
30
26
External portfolio evaluations
Return model validation
32
REPORTING SYSTEM
16
14
ANALYITICS

Fig. 2

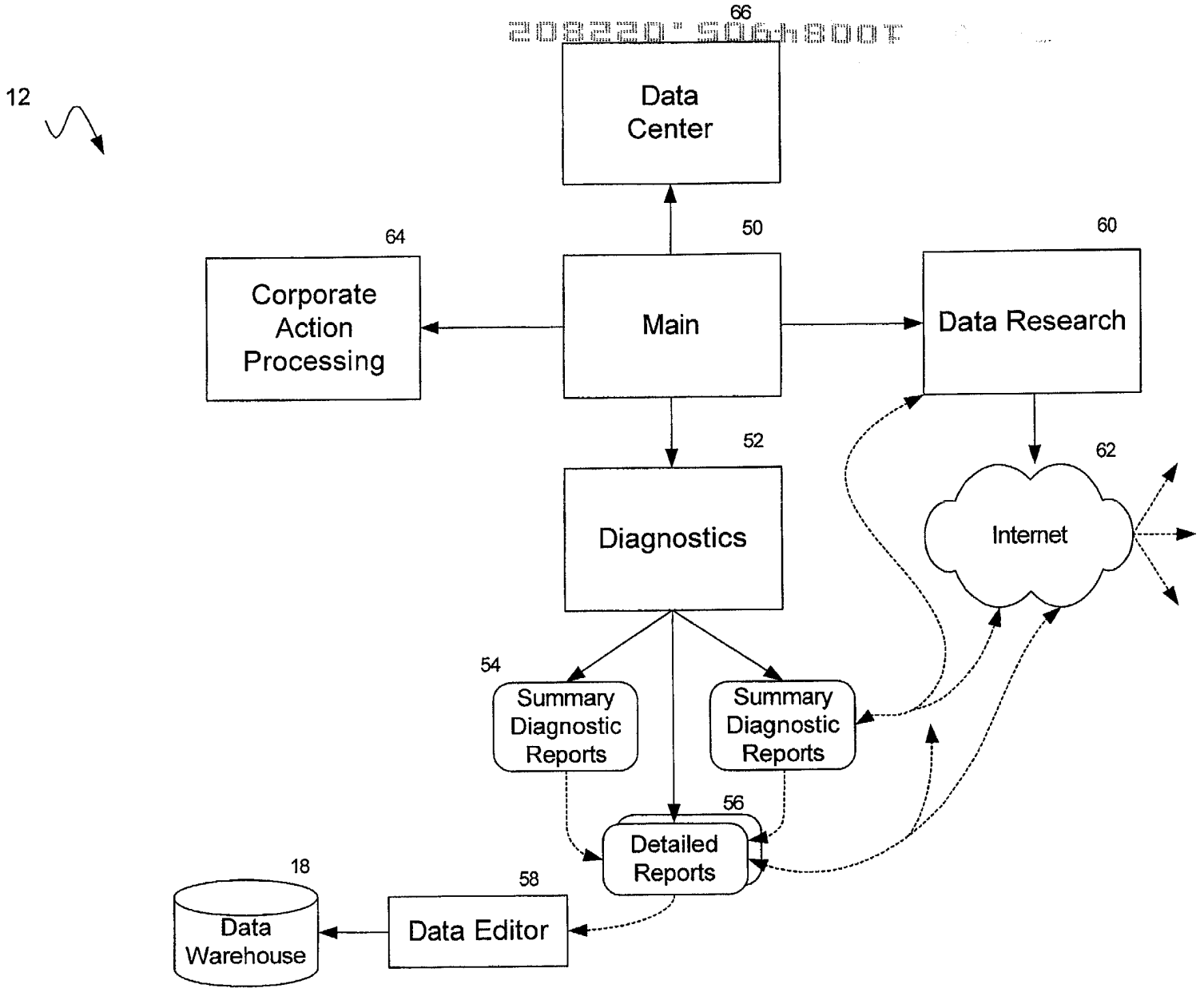
12
66
Data Center
50
64
Corporate Action Processing
Main
60
Data Research
52
62
Diagnostics
Internet
54
Summary Diagnostic Reports
Summary Diagnostic Reports
56
Detailed Reports
18
58
Data Warehouse
Data Editor

Fig. 3

Diagnostics

Home > Data > Diagnostics

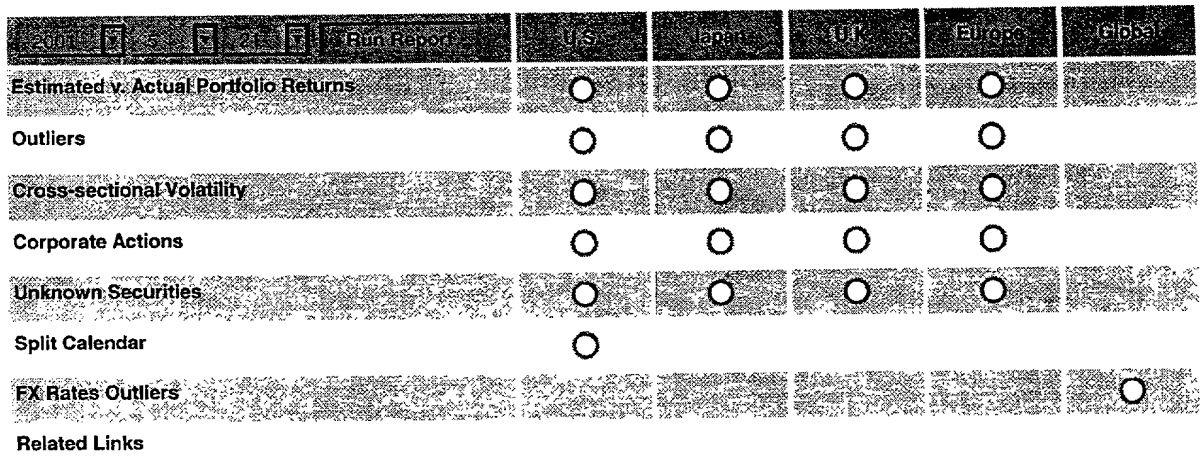

FIG. 4

Estimated (aka W ' R) v. Actual Portfolio Returns : Japan

Home > Data > Diagnostics > Estimated v. Actual Returns

Definitions:

- **Estimate** = Estimated account total return based upon PACE market data.
- **Actual** = Actual account total return as reported by IPVO.
- **Bps Diff** = |Estimate - Actual|
- **Assets** = Change in number of assets in an account, (Assets[t] - Assets[t-1])

Click on the Portfolio Name to view information (e.g., issuers name, PACE ID, CUSIP and/or SEDOL, Price, Shares, Total Return, Dividends) for each consituent.

Portfolio Name	Portfolio #	Estimate	Actual	Bps Diff	Assets
Kampo Japan Quants Equity	350996	0.708	n/a	n/a	-1
JR Hokkaido	350955	1.068	n/a	n/a	0
Japan Telecommunications Welfare Assn. (TELWEL)	350949	1.060	n/a	n/a	0
Nenpuku-LPS	350948	1.104	n/a	n/a	0
Japan Active Equity Portfolio (Pooled)	350340	1.106	n/a	n/a	0
GS Japanese Equity Fund (Onshore)-Ushiwakamaru	350330	1.033	n/a	n/a	0
Nippon Steel	350042	1.064	n/a	n/a	0
Tokyo Electric Power QPF	350026	1.073	n/a	n/a	0
CSK Employees Pension Fund	350025	0.791	n/a	n/a	0
Canon Pension Fund	350003	1.049	n/a	n/a	0
Melco Pension Trust	350001	1.081	n/a	n/a	0
LINCOLN JAPAN LIFE	170210	1.122	n/a	n/a	0
MINEWORKERS JAPAN EQUITY	100832	0.972	n/a	n/a	-1
STAFF JAPAN EQUITY	100807	0.975	n/a	n/a	0
PUBLIC INSTITUTION FOR SOCIAL SECURITY	100312	1.070	n/a	n/a	0
KDDI	100238	1.076	n/a	n/a	0
GS Japanese Equity Fund	100222	1.090	1.673	58	0
GS Japanese Equirt Fund (onshore)-Ushi 2	350331	0.985	1.031	4	0
TOPIX	664	0.879	0.861	1	0
Issunboshi GS Japan Microcap	350339	0.829	0.845	1	0
Japan CORE Equity Fund	300977	0.679	0.690	1	0
GS Japan Portfolio (UCITS) Fund	100084	1.063	1.054	-	0
MSCI JAPAN	661	0.942	0.949	-	0
GS Japan Small Cap Fund	100087	0.713	0.718	-	0
Russel NR1 Small Cap	663	0.522	0.517	-	0

IPVO

Fig. 5

Constituent data for GS Japanese Equity Fund as of 20010521

Click on the PACE IDs for historical security data.

Issuer	PACE ID	Synonym	Price	Shares	Return	Dividend	Split
ASAHI KASEI CORP	25655	'6054603	602.0000	149000	0.0067	-	-
ASAHI GLASS CO	25931	'6055208	1082.0000	82000	0.0065	-	-
BANDAI CO	26673	'6075057	3890.0000	18200	0.0104	-	-
BANYU PHARM	25836	'6077309	2305.0000	37000	-0.0171	-	-
TOPPAN FORMS	28179	'6105028	2045.0000	45900	0.0074	-	-
SUMITOMO REAL EST	28186	'6119449	3530.0000	4900	0.0173	-	-
NIPPON MINING & ME	28199	'6123202	730.0000	74000	0.0238	-	-
NTT DOCOMO	28219	'6129277	2500000.0000	172	0.0040	-	-
FUNAI ELECTRIC CO	28245	'6141550	9400.0000	4500	-0.0021	-	-
USS	28286	'6171494	3990.0000	300	-0.0124	-	-
CANON INC	26629	'6172323	5190.0000	38000	0.0058	-	-
CHIBA BANK	26961	'6190563	530.0000	78000	0.0134	-	-
YOSHINOYA D&C CO	25345	'6211851	178000.0000	410	-0.0166	-	-
DDI CORP	27628	'6248990	589000.0000	109	0.0867	-	-
DAIWA SECS GROUP	27075	'6251448	1394.0000	77000	0.0138	-	-
DOWA MINING CO	26063	'6278306	565.0000	125000	0.0561	-	-
MIZUHO HLDGS	44966	'6286280	699000.0000	144	-0.0029	-	-
EAST JAPAN RAILWAY	27641	'6298542	667000.0000	155	-0.0045	-	-
UFJ HLDGS	85771	'6335223	823000.0000	90	-0.0167	-	-
FUJI PHOTO FILM CO	25882	'6356525	5100.0000	27000	0.0262	-	-
FUJITEC CO	26296	'6356826	500.0000	71000	0.0142	-	-
HONDA MOTOR CO	26583	'6435145	5280.0000	18000	-0.0038	-	-
AIR WATER	25752	'6441465	579.0000	8000	0.0140	-	-
KANEBO	25618	'6483241	369.0000	97000	0.0453	-	-
KANEKA CORP	25774	'6483360	1115.0000	100000	0.0353	-	-
KAO CORP	25822	'6483809	3140.0000	43000	0.0096	-	-
KATOKICHI CO	25596	'6484244	3140.0000	22300	-0.0485	-	-
KEYENCE CORP	26460	'6490995	28360.0000	3000	0.0071	-	-
KIRIN BREWERY CO	25562	'6493745	1129.0000	52000	0.0098	-	-
KOMERI CO	26885	'6496250	2860.0000	12900	0.0142	-	-

72

FIG. 6

EXHIBIT - GOLDMAN

> Data > Diagnostics > Outliers

This diagnostic reports all outliers for a given market.

- NORETURN : 13057 45812C10 INTEGRATED HEALTH SVCS INC
- NORETURN : 13375 98141A10 WORLD ACCESS INC
- NORETURN : 13377 97551510 WINSTAR COMMUNICATIONS INC
- NORETURN : 14137 86707110 SUNBEAM CORP
- NORETURN : 15138 59164710 METROCALL INC
- NORETURN : 16899 26915310 E SPIRE COMMUNICATIONS INC
- NORETURN : 17666 [illegible] FIRSTPLUS FINL GROUP INC
- NORETURN : 18257 56824410 MARCHFIRST
- NORETURN : 18442 69432710 PACIFIC GATEWAY EXCHANGE INC
- NORETURN : 18558 86787D10 SUNTERRA CORP
- NORETURN : 18790 92552920 VIATEL INC
- NORETURN : 18805 24791810 DELTA FINL CORP
- NORETURN : 19796 87959Y10 TELIGENT INC
- NORETURN : 19810
- NORETURN : 20109
- NORETURN : 20871
- NORETURN : 20885
- NORETURN : 21350
- NORETURN : 22441
- NORETURN : 23877
- NORETURN : 3100 1
- NORETURN : 3109 0
- NORETURN : 7063 9
- NORETURN : 713 14
- NORETURN : 86276
- STATIC : 10444 1841
- STATIC : 11136 8354
- STATIC : 11416 8690
- STATIC : 1145 68618
- STATIC : 1311 31943
- STATIC : 13304 0558
- STATIC : 13637 0323
- STATIC : 14093 032E
- STATIC : 15271 6362
- STATIC : 15695 635E
- STATIC : 16076 7434
- STATIC : 16340 4312
- STATIC : 16518 743E
- STATIC : 1704 36147
- STATIC : 17091 9297
- STATIC : 18849 3795
- STATIC : 19529 2483
- STATIC : 19541 4557
- STATIC : 19564 871E
- STATIC : 19823 4497
- STATIC : 1985 9223

76

74

Time series data for PACE ID 18257

Home > Data > Search Results > Historical Data > Update

Date	[illegible]	[illegible]	AR	[illegible]	TR	VOL	[illegible]	USO	DIV
2000-09-11	20.812500	1.000000		-0.011864		766442	150214000		0.000
2000-09-12	20.062500	1.000000		-0.036036		476886	150214000		0.000
2000-09-13	19.250000	1.000000		-0.040498		405615	150214000		0.000
2000-09-14	20.000000	1.000000		0.038961		653842	150214000		0.000
2000-09-15	18.687500	1.000000		-0.065625		1234148	150214000		0.000
2000-09-18	17.625000	1							
2000-09-19	18.062500	1							
2000-09-20	18.437500	1							
2000-09-21	17.875000	1							
2000-09-22	17.375000	1							
2000-09-25	15.875000	1							
2000-09-26	15.750000	1							
2000-09-27	14.125000	1							
2000-09-28	16.000000	1							
2000-09-29	15.687500	1							
2000-10-02	15.062500	1							
2000-10-03	14.375000	1							
2000-10-04	13.250000	1							

Update Data

Home - Data

Date	2000-09-11
PACE ID	18257
Attribute	UCP
Current Value	20.812500
New Value	
Password	

Update

Fig. 7

Cross-sectional Volatility : U.S.

Home > Data > Diagnostics > Cross-sectional Volatility

Click on the dates to report total return outliers.

Date	Cross-Sectional Vol	Number of Securities
20010521	5.947	7955
20010518	4.798	7951
20010517	8.507	7914
20010516	7.261	7919
20010515	5.385	7918
20010514	6.642	7925
20010511	6.343	8038
20010510	5.994	8040
20010509	5.278	8042
20010508	6.100	8042
20010507	5.617	8039
20010504	5.290	8043
20		
20		
20	

DataCenter

README

Data that you extract is comma delimited and will appear in your browser. You can Copy/Paste the data into Excel and use othe following Excel menu option sequence to format the data properly: Data / Text to Columns / Delimited / Comma / Finish.

When in doubt : click on the link in each section/function separator...the resulting page should explain how to use the function or what is in the section. For exmple, if you're not sure what the Security Matrix Extractor does or how to use it, then click on the link in the separator entitled Security Matrix Extractor.

Direct all questions, comments, and requests to John Matero.

Searching

Issuer

Symbol

CUSIP

SEDOL

PACEID

Portfolio

Enter search string, then hit Enter

Portfolio Constituent Extractor

Date in CCYYMMDD format

Portfolio ID use the Portfolio search tool on the left to locate a Portfolio ID

Extract

Security Matrix Extractor

Date Range to
dates in CCYYMMDD format

Frequency Daily Monthly

Security ID

Security ID Type CUSIP SEDOL

Extract

Multiple Security Extractor (under construction)

Date Range to
dates in CCYYMMDD format

Frequency Daily Monthly

Series Type Price Total Return Split Factor Shares Volume Dividend

Security ID List

Extract

Health Warning: The Multiple Security Extractor is being developed. It works for US securities only. Currenly, CUSIPs are the only acceptable security IDs.

Multiple Account Extractor

Start Date in CCYYMMDD format

Portfolio ID List

Extract

Data Diagnostics

Portfolio Stats

Date to
in CCYYMMDD format

Portfolio ID use the Portfolio search tool on the left to locate a Portfolio ID

Run

Documentation

US
Pricing Data from CRSP and FAME
Split Processing
Dividend Code Descriptions
Corporate Actions Guide
Data Inventory

International
Extel Trading Volume Data for International Equities
Japanese Equity Data Coverage and Analysis
Extel International Corporate Action Codes + Descriptions
Extel Country Codes + Descriptions
Official CCY-to-EUR Conversion Rates

General
How PACE defines and deals with outliers

Monitoring Production

Links

PACE
Data Diagnostics
Synonym Maintenance
Benchmark Maintenance
Account Maintenance
Autosys
Batch Load Stats
Upload files

Related
(Almost) Global Holiday Calendar
EDGAR DB Search
Yahoo Finance
Yahoo IPO Calendar
Yahoo Splits Calendar
Stock Exchange Links

FIG. 9

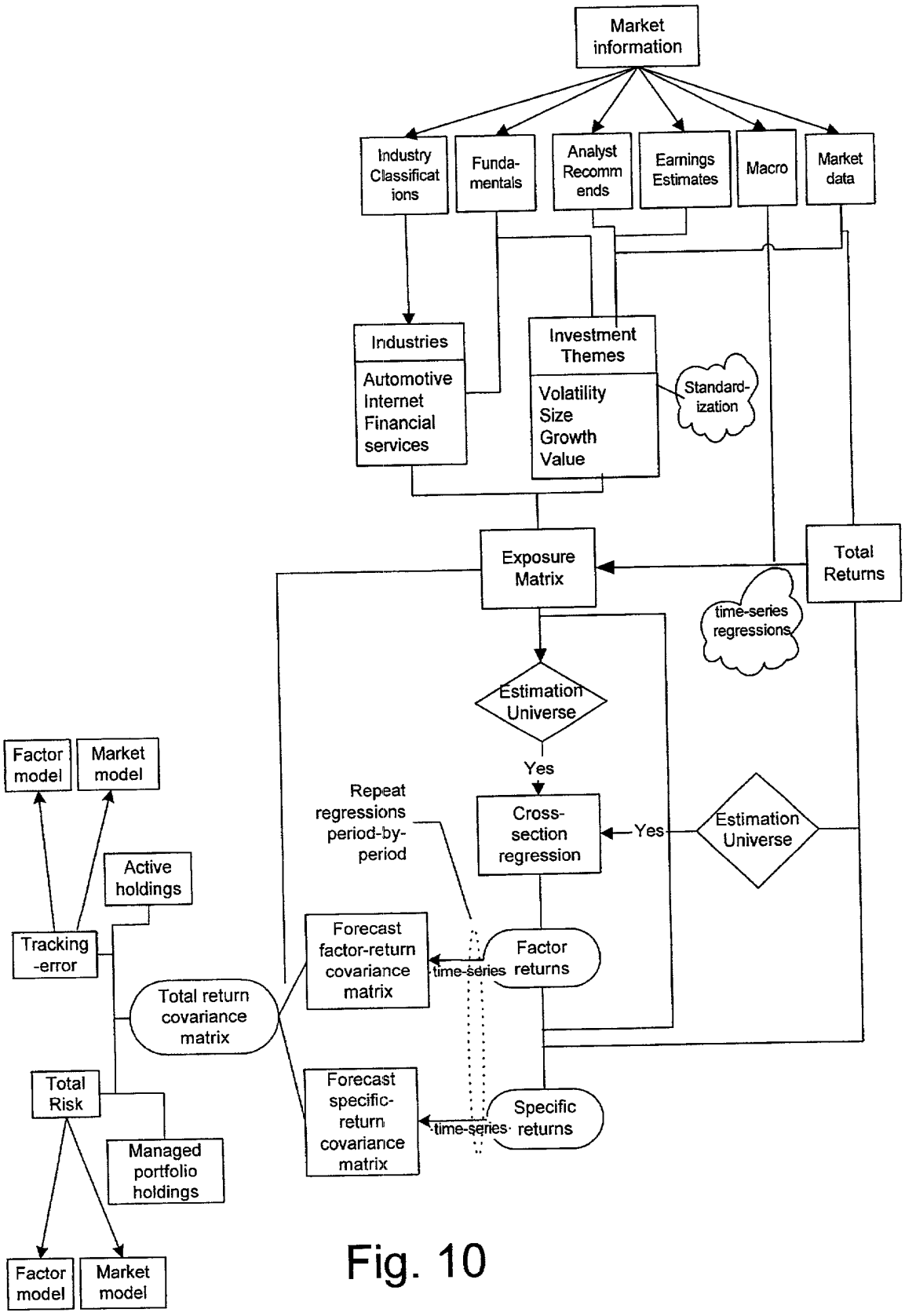
Market information
Industry Classifications
Fundamentals
Analyst Recommends
Earnings Estimates
Macro
Market data
Industries
Automotive
Internet
Financial services
Investment Themes
Volatility
Size
Growth
Value
Standardization
Exposure Matrix
Total Returns
time-series regressions
Estimation Universe
Yes
Repeat regressions period-by-period
Cross-section regression
Yes
Estimation Universe
Factor model
Market model
Active holdings
Tracking -error
Forecast factor-return covariance matrix
time-series
Factor returns
Total return covariance matrix
Total Risk
Forecast specific-return covariance matrix
time-series
Specific returns
Managed portfolio holdings
Factor model
Market model

Fig. 10

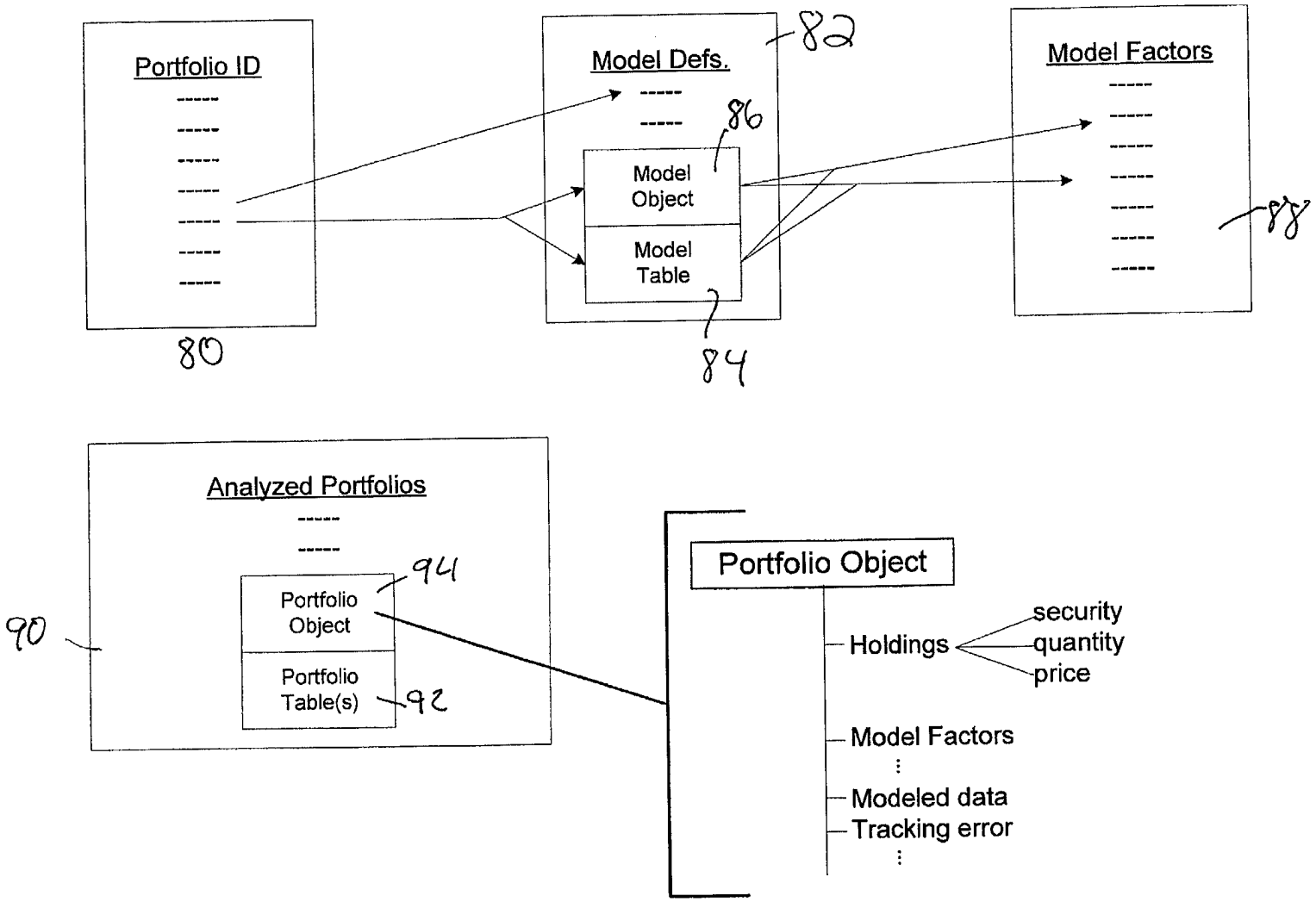
Portfolio ID
80
Model Defs.
82
86
Model Object
Model Table
84
Model Factors
88
Analyzed Portfolios
90
94
Portfolio Object
Portfolio Table(s)
92
Portfolio Object
Holdings
security
quantity
price
Model Factors
Modeled data
Tracking error

Fig. 11

Definition of model from *customPZ*(Horizon,factorlist,industryList,EstimWght, SpecShrink)

Structure	Field(1)	Field(2)	Field value
Model	.name.		*'barra_month_10*
Model	.f.	EstimUniv	*'barra'*
		Risks	*{1 x 13 cell}*
		RiskNames	*{1 x 13 cell}*
		Sectors	*{1 x 13 cell}*
		SectorNames	*{1 x 13 cell}*
		Weights	*'barra'*
		Procedure	*'barra'*
		Name	*'barra'*
		Horizon	*'daily'*
		Beg	*19730201*
		End	*20000114*
		Cal	*'Month'*
		Industries	*[1 x 52 double]*
		Exposures	*[1 x 65 double]*
		RiskList	*[1 2 3 4 5 6 7 8 9 10 11 12 13]*
		IndustryList	*[1 x 52 double]*
		SectorsList	*{ 1 x 13 cell }*
		Dates	*[6813 x 2 double]*
		Periods	*252*
Model	.omega.	Name	*'exp2014'*
		Lag	*4*
		Halflife	*20*
		Min	*100*
		Max	*100*
Model	.delta.	Name	*'exp20s10'*
		Halflife	*20*
		Min	*20*
		Max	*100*
		Shrink	0.1000

FIG. 12

PACE portfolio object

All data elements required to do research and measure risk and return reside in a portfolio's object. The following is an example of fields of a portfolio object (i.e., the names of the fields). The object's name is 'Port'.

Port.name
Port.permnos
Port.weights
Port.prices
Port.amounts
Port.holdings
Port.portfoliovalue
Port.portfolioexposure
Port.mngd_loadings
Port.mngd_return.StyleContrib
. IndustryContrib
. stck_loadings
. CtyContrib
. CcyContrib
. FactorContrib
. SpecificContrib
. estimated_total
. ipvo_total
. modelerror
. benchmark
. market
. WprimeR
. assetcontribution
. expected_market
. market_timing
. exceptional
Port.mngd_risk
Port.mngd_MC
Port.Riskmodelname
Port.ModelID
Port.NumberofAssets
Port.Percent_Cash
Port.date
Port.riskfree
Port.asset_returns
Port.liquidity
Port.mkt_name
Port.mkt_weights
Port.mkt_permnos
Port.premium
Port.bm_name
Port.bm_weights
Port.bm_permnos
Port.bm_holdings

Port.betas
Port.active_weights
Port.active_permnos
Port.active_holdings
Port.act_loadings
Port.act_risk
Port.act_MC
Port.Delta
Port.FactorCov
Port.RiskFactorReturn
Port.RiskSpecificReturn
Port.RiskExposureMatrix
Port.HotSpots
Port.AttribFactorReturn
Port.AttribSpecificReturn
Port.AttribExposureMatrix
Port.ImpliedView
Port.realTE
Port.realVol
Port.turnover
Port.XsectionVol
Port.bias20day
Port.bias60day
Port.bias90day
Port.IR
Port.SR
Port.multi_attrib
Port.realBeta

FIG. 13

Exhibit 1008 - Page 0013

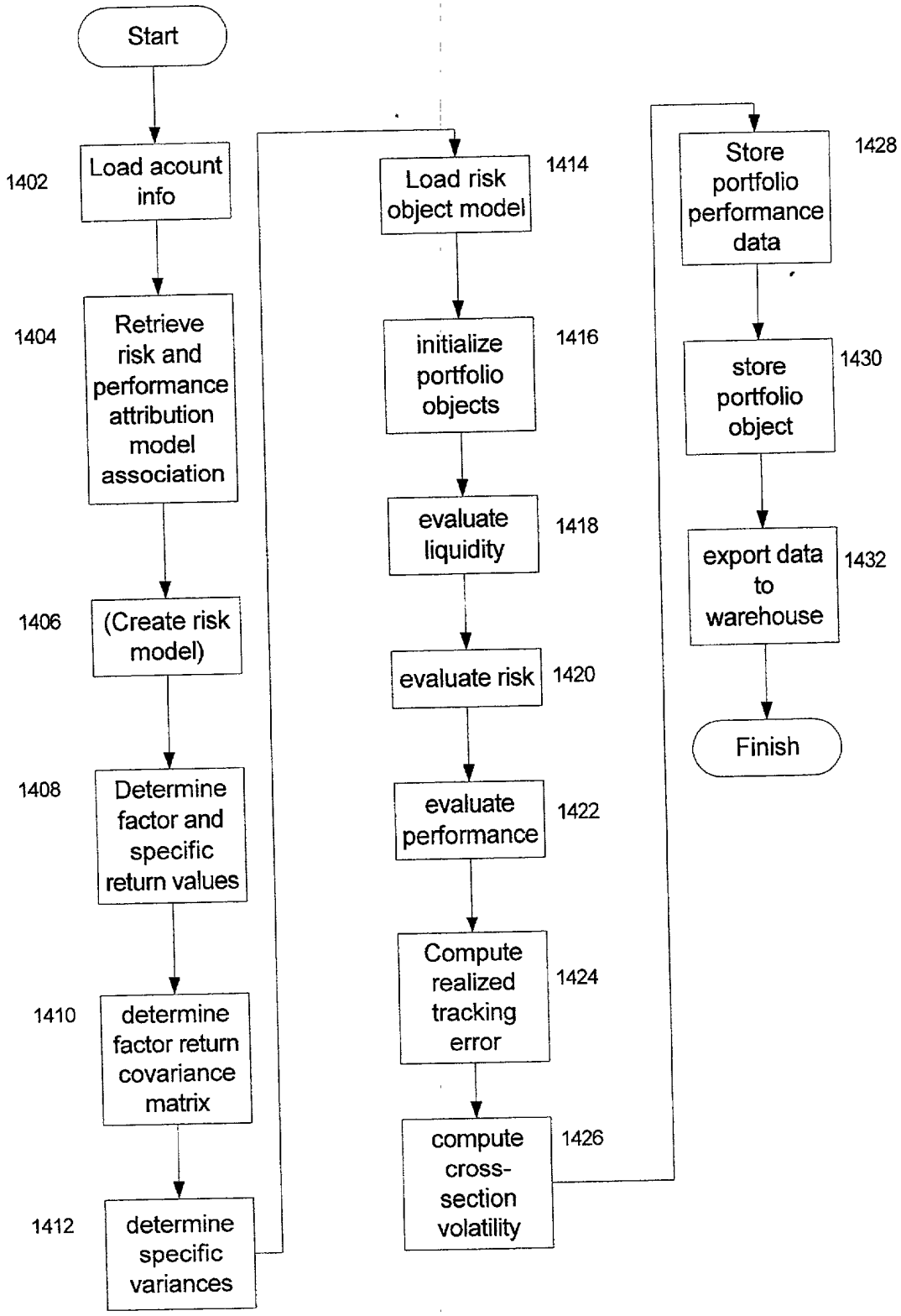
Start
1402
Load acount info
1404
Retrieve risk and performance attribution model association
1406
(Create risk model)
1408
Determine factor and specific return values
1410
determine factor return covariance matrix
1412
determine specific variances
1414
Load risk object model
1416
initialize portfolio objects
1418
evaluate liquidity
1420
evaluate risk
1422
evaluate performance
1424
Compute realized tracking error
1426
compute cross-section volatility
1428
Store portfolio performance data
1430
store portfolio object
1432
export data to warehouse
Finish

Fig. 14

Sample PACE Home Page

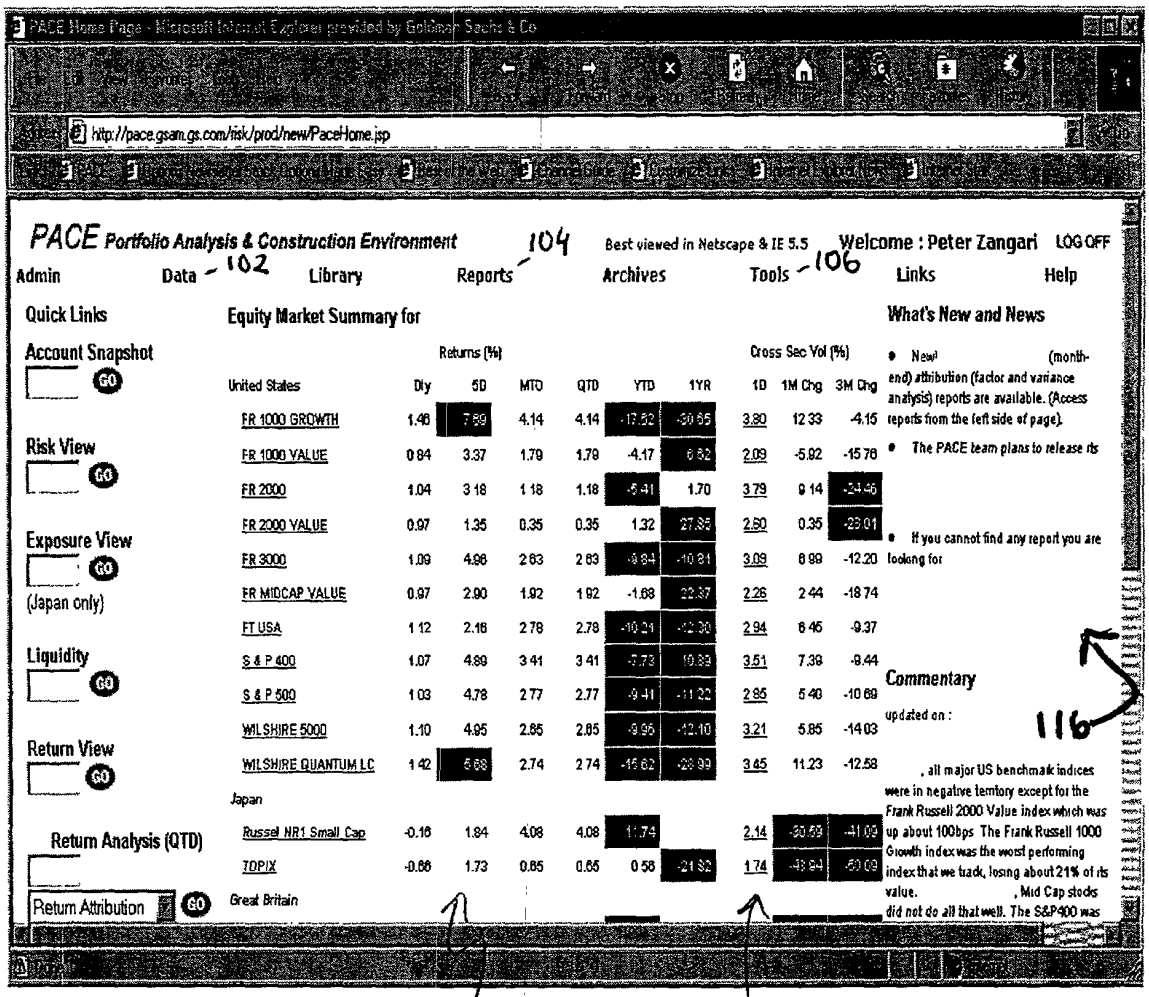

FIG. 15

Navigating the PACE home page

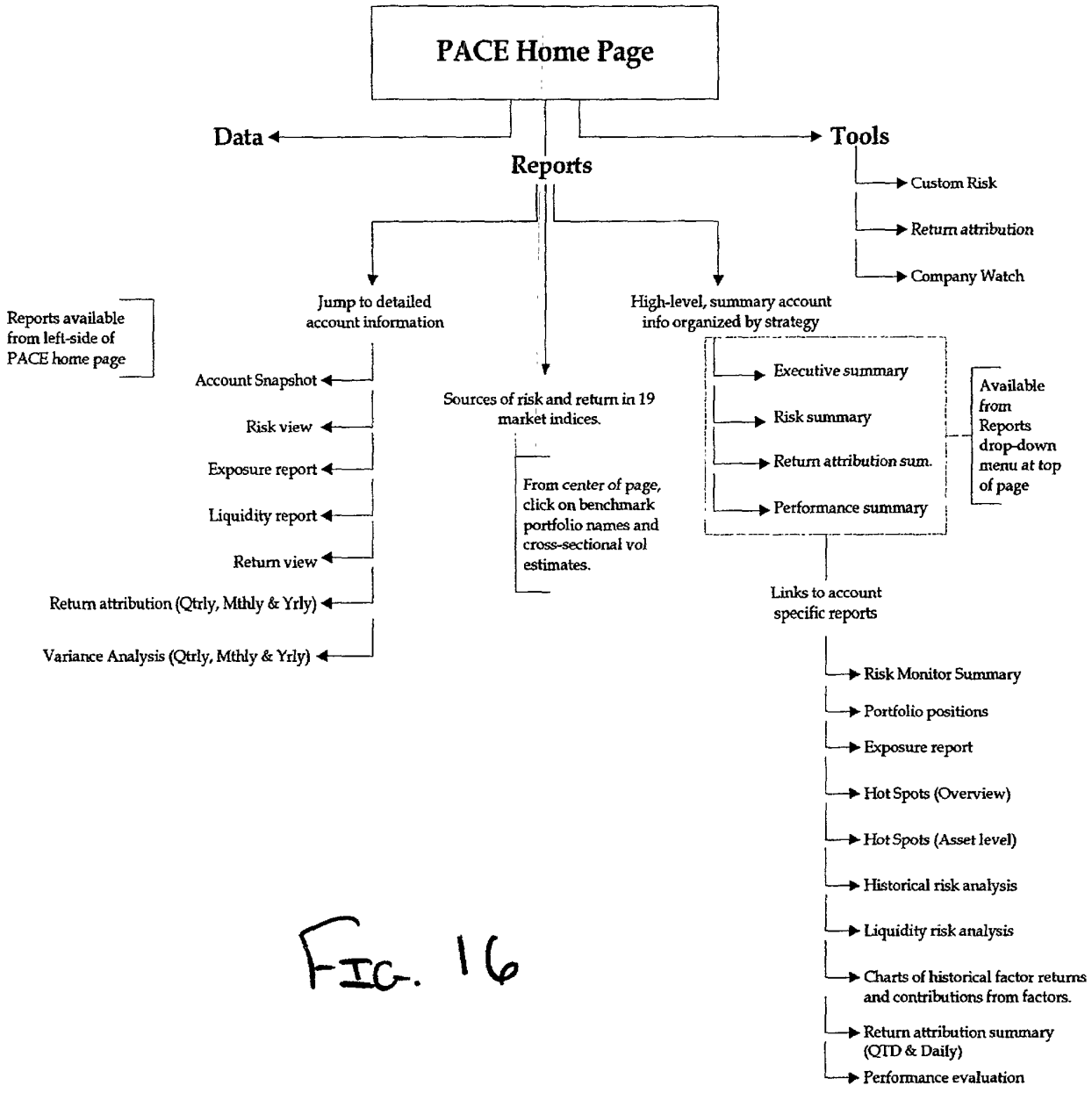

FIG. 16